**THERAPEUTIC FOR TREATMENT OF MELANOMA**

**T Cell Immunotherapy Specific for MART-1**

**Brief Technology Description**
Anti-MART-1 engineered T cells for the treatment of melanoma.

**Technology Overview**
Locally advanced and metastatic melanoma are well known to be resistant to current therapies. The survival rate for patients with Stage IV melanoma is low, with a median survival being less than 1 year. In a first-in-human case study, Fred Hutch researchers demonstrated that cytotoxic T lymphocytes specific for MART-1 combined with an anti-CTLA4 agent were able to induce long-term remission in a melanoma patient previously resistant to both modalities. Based off these findings, Dr. Chapuis and her team are engineering high affinity T cell receptors (TCRs) specific for MART-1 to enhance the efficacy of monoclonal engineered TCRs and minimize the reliance on checkpoint inhibitors, such as CTLA-4.

**Applications**
- Treatment of melanoma and other MART-1 expressing tumors

**Advantages**
- MART-1 has been demonstrated as a viable clinical target for adoptive T cell therapy
- Synergy with anti-CTLA4 and other checkpoint inhibitors

**Market Overview**
Melanoma is the sixth most common cancer in the US with an incidence of ~75,000 annually and a prevalence of ~1 million patients. The global market for melanoma is anticipated to expand fourfold and reach an estimated $5.64 B by 2023. While immunotherapies targeting T cell checkpoint inhibition are major market drivers, there are a significant number of patients who do not benefit from these therapies or who are unable to tolerate the toxicity. Alternative approaches are still needed to address this unmet medical need.

**Investigator Overview**
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